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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/605,885	11/04/2003	Dinesh A. Badami	BUR920030108US1	2884
30449	7590	07/06/2005	EXAMINER	
SCHMEISER, OLSEN + WATTS			NADAV, ORI	
3 LEAR JET LANE			ART UNIT	
SUITE 201			PAPER NUMBER	
LATHAM, NY 12110			2811	

DATE MAILED: 07/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/605,885	Applicant(s) BADAMI ET AL.	
	Examiner Ori Nadav	Art Unit 2811	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 1-6 and 12-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-11 and 18-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 7-11 and 18-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. There is no support in the disclosure and in the drawings for first and second mesas directly over the fuse link and directly over the first and second vias, as recited in claim 7.

There is no support for a device comprising the limitations of claim 8, because independent claim 1 is directed to the embodiment of figure 4, whereas dependent claim 8 is directed to the embodiment of figure 8E.

There is no support in the disclosure and in the drawings for first and second regions of the first and second oxygen-getter shields being directly over the fuse link, such that the fuse link is disposed between the first and second regions of the first and second oxygen-getter shields and the first dielectric layer, as recited in claim 18.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. (6,074,940) in view of Daubenspeck et al. (6,440,834).

Lee et al. teach in figure 2A and related text an electronic structure, comprising:

a first dielectric layer 15 having at least first and second vias 20 filled with a first self-passivated electrically conducting material;

a fuse link 25, 40 on top of the first dielectric layer, the fuse link comprising a second material having a characteristic of changing its electrical resistance after being exposed to a laser beam; and

first and second mesas 30 directly over the fuse link and directly over the first and second vias, respectively, the first and second mesas each comprising a third self-passivated electrically conducting material, wherein the fuse link is disposed between the first and second mesas and the first dielectric layer.

wherein the second material comprises a substance selected from the group consisting of TaN, TiN, and WN,

and wherein the first and third self-passivated electrically conducting material comprises a substance selected from the group Al and W.

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Lee et al. do not explicitly state that the components in the device are electrically connected to each other, such that fuse link electrically connecting the first and second vias.

Daubenspeck et al. teach in figure 1f and related text a fuse link 26 electrically connecting the first and second vias 16.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to electrically connect the components in the device to each other, such that the fuse link electrically connecting the first and second vias in Lee et al.'s device in order to operate the device in its intended use.

Regarding claim 8, Lee et al. teach in figure 2A and related text and a second dielectric layer 35 directly over the fuse link such that the fuse link is sandwiched between the first and second dielectric layers. Lee et al. do not teach first and second regions of the second dielectric layer are directly beneath the first and second mesas, such that the first and second regions of the second dielectric layer are disposed between the fuse link and the first and second mesas, respectively.

Daubenspeck et al. teach in figure 1f and related text a fuse structure wherein two dielectric layers are formed between the substrate and the fuse link. Forming the fuse link in Lee et al.'s device in such manner would result in first and second regions of the second dielectric layer being directly beneath the first and second mesas, such that the first and second regions of the second dielectric layer are disposed between the fuse link and the first and second mesas, respectively.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to form the fuse link in Lee et al.'s device with two dielectric layers located between the substrate and the fuse link, in order to improve the characteristics of the device by providing better processing steps for the lower conductors.

Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Daubenspeck et al. (6,440,834) in view of Lee et al. (6,074,940).

Daubenspeck et al. teach in figure 1f and related text a first dielectric layer 14 having at least a first via and a second via 16 both filled with a first electrically conducting material;

a first oxygen-getter shield and a second oxygen-getter shield 20a (above via 20a) being directly over and in direct physical contact with the first electrically conducting material in the first and second vias, respectively, the first and second oxygen-getter shields comprising a second electrically conducting, oxygen-getter material ; and

a fuse link 26 electrically connecting the first and second oxygen-getter shields, the fuse link comprising a third material having a characteristic resistance after being of changing its electrical exposed to a laser beam,

the fuse link is disposed between first and second regions of the first and second oxygen-getter shields and the first dielectric layer.

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Daubenspeck et al. do not teach first and second regions of the first and second oxygen-getter shields being directly over the fuse link.

Lee et al. teach in figure 2A and related text first and second regions of the first and second oxygen-getter shields being directly over the fuse link.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use first and second regions of the first and second oxygen-getter shields being directly over the fuse link in Daubenspeck et al.'s device in order to use the device in an application which requires longer fuse link. Note that longer fuse would result first and second regions of the first and second oxygen-getter shields being directly over the fuse link.

Regarding claims 19-20, prior art's device comprising a first mesa and a second mesa 20a, 20b being directly over and in direct physical contact with the first and second oxygen-getter shields, respectively, such that the first and second oxygen-getter shields are disposed between the first and second mesas and the first dielectric layer, the first and second mesas comprising a fourth electrically conducting material, wherein the second electrically conducting, oxygen-getter material comprises titanium.

Response to Arguments

Applicant argues that there is support in the disclosure and in figure 4 for first and second mesas directly over the fuse link and directly over the first and second vias, as recited in claim 7.

Although figure 4 depicts first and second mesas are located directly over the fuse link and over the first and second vias, the first and second mesas are not located directly over the first and second vias, because the fuse link is located between the first and second mesas and the first and second vias.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ori Nadav whose telephone number is 571-272-1660. The examiner can normally be reached between the hours of 7 AM to 4 PM (Eastern Standard Time) Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Loke can be reached on 571-272-1657. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



O.N.
7/1/05

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